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ABSTRACT

The question of whether institutions of higher education (IHEs) behave as loosely or tightly coupled systems was investigated. Organizational coupling was defined as the relationship that exists between or among elements (variables) in an organizational system. A taxonomic approach was employed to develop a sample set of indicators of the strength of the relationship between specified organizational elements. Attention was directed to edificial elements of coupling, functional elements, and procedural elements. Coupling was found to have a quantitative dimension (i.e., the simple frequency of an interaction), as well as a qualitative dimension that was part of the textural description of coupling within an organization. Qualitative measures of coupling included reliability, responsiveness, and dependency. It is argued that interactions need to be described in relation to the qualitative criteria before the texture of coupling in an IHE can be portrayed. Illustrative queries on coupling are included that cover data sources and elements relevant to interactions between professors and department chairpersons, budgeting, planning, needs assessment, and program innovation. Recommendations for technical and empirical research on coupling are briefly addressed. (SW)

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Strength of Coupling in the Organization and Operation of Colleges and Universities[1]

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HE 017 421

The original intent of the authors of this manuscript was to compare the "coupling strength" in various types of colleges and universities. To accomplish that end we planned to conduct a meta-analysis of the recent case study literature of institutions of higher education (IHEs).

You should be so unfortunate! Should we have anticipated the morass we were about to traverse? Probably: at least now it seems that way. The state of the art in this research area suggests ambiguity:

- Almost any tool of organizational analysis, broad or narrow, e.g., climate, leadership, goals, decision making, has more currency in organizational case descriptions than coupling.

- Empirical researchers and authors of case studies have usually assumed that either the coupling in organizations is tight or it ought to be, i.e., either it is not worth commenting upon or it is in need of repair.

- Organizational theorists have followed Karl Weick's lead in assembling "the meanings of loose coupling and let(ting) people take the ones they want" (Weick, Note 1, p. 2). We were forewarned about the conceptual imprecision by Weick: "So when individuals see different things in their organizational worlds, yet label all of them loosely coupled systems, that doesn't bother me because they are assembling a set of phenomena that do need to be puzzled over" (Note 1, p. 3).

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We found ourselves examining case study reports that (1) never focused on our target, (2) reflected the common model bias toward seeing or inferring tight coupling, and (3) defined coupling, if they attended to it at all, in multiple, even conflicting, ways. And we were trying to conduct an examination of coupling in these cases with analytic tools of our own which were conceptually inclusive rather than precise; provocative of multiple images rather than operational. We were attempting to gather data about a concept that we were "puzzling over." Under these conditions what can we tell you about whether IHEs behave as loosely or tightly coupled systems?

1. Some do, some don't;
2. The differences aren't very great;
3. It's more complicated than that.[2]

Reviewing the Situation

The recent flurry of interest in coupling, however, has not left the field without guideposts. Almost all commentators agree on a general definition of organizational coupling similar to:

> . . . the relationship that exists between or among elements (variables) in an organizational system.

To add the concept of variability to the basic definition, Glassman argued:

> The degree of coupling . . . depends on the activity of the variables which they share. To the extent that two systems either have few variables in common or if the common variables are weak compared to other variables which influence the system, they are independent of each other. (1973, p. 84)

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[2]Weick (Note 1, p. 5) noted that these propositions were Bernard Berelson's summary of the 1,000+ findings about human behavior from his 1964 volume, Human Behavior: An Inventory of Scientific Findings.

The difficulty with the application of the definition in studying or understanding organizations arises when one begins to consider operational definitions of (1) the systems, sub-systems, individuals, events, functions, activities, (? or things) that are either elements, or systems or variables and (2) the relationship, the responsiveness, or the sharing.

We considered, i.e., retreated to, the obvious gambits around this "difficulty." An exhortative article denigrating the overly simplistic characterization of organizations as loosely coupled systems, in contrast to the earlier simplism of tight coupling, was a possibility. But the model of a loosely coupled system has served such a useful purpose in opening up new images of organizing that it deserves not just praise for past accomplishments but protection as a future investment in conjecture and "puzzlement." There is an available oversimplification that was very appealing. Deal only with an aspect of coupling that everyone agrees is in the territory and is easy to define, e.g., hierarchical control relationships. That is probably worth doing but it seems to splinter the "difficulty" into such a discrete elemental set that it loses the flavor of the original problem. Coupling is, finally, more than the sum of its parts. Although one will undoubtedly have to deal with the parts more discretely than they have been analyzed in the past, restricting consideration to a single element at this stage would seem to have little heuristic value. The most tempting alternative was to try to produce a more accurate model of coupling which portrayed an allegedly necessary and sufficient set of elements and relationships. We were not up to that challenge and as we tried we discovered that the higher the level of accuracy we sought, the greater the complexity, the lower the usability.

What we have fallen back on, instead, is essentially a taxonomic approach. There are two things we think we can handle at our present level of sophistication:

(1) identify, classify, and define a necessary, but surely not sufficient, set of elements or variables.

(2) identify, classify, and define some of the characterizations of the relationships between and among the elements.

Based on these efforts we propose to:

(3) develop a sample set of indicators of the strength of the relationship between specified organizational elements.

(4) discuss briefly a set of recommendations for technical and empirical research activities on coupling.

Elements or Variables or Things

Edificial Elements

No organizational theorist was more fascinated with the concept of coupling than Max Weber. His discussion of organizational elements began with offices and positions arranged vertically and horizontally to reflect line, staff, and co-equal relationships (Miller, 1963; Weber, 1947). This suggests that there is a class of edificial elements of coupling that is familiar to all of us and necessary to examine if one wishes to picture organizational coupling as a whole, e.g.:

- Offices
- Office holders
- Positions

The same cluster probably contains such other formal elements as:

- Task specifications

- Job descriptions
- Policies
- Rules and regulations

In slightly more contemporary terms, we might add:

- Primary work groups
- Quality circles
- Company philosophies or hallmarks

This cluster is intended to include those elements designated by the organization, in some formal sense, as the building blocks of the edifice. The builders intend that these elements will have some level of internal coupling strength, e.g., certain position holders will report with a specified frequency on specified matters to an office holder, or rules and regulations will be consistent with policies, or job descriptions will be consistent with position holders' activities. An empirical examination of these elements in situ would provide some inferences about the patterns of coupling within an organization - intended and actual.

Functional elements

But the edifice is built to do something. These "doing" elements have been grouped together traditionally as organizational functions. We have no interest in devoting time to improving upon Fayol's generic leadership functions (POSDCORB) but rather to note simply that such generic functions are part of the "things" theorists refer to when they suggest that organizational elements are tightly or loosely coupled, e.g.:

- Planning
- Organizing
- Staffing
- Directing

- Coordinating
- Reporting
- Budgeting
- Evaluating

Organizations and organizational types, in this case IHEs, need to add an appropriate set of idiosyncratic functions which reflect the technical core of their activities. For simplicity, we will accept the normal triad of IHE functions, i.e.:

- Teaching
- Research
- Service

If this delineation of generic and specific organizational elements is too traditional for your taste, simply add to it or substitute a more meaningful grouping. It serves the immediate purpose of establishing the utility of a set of functional elements.

Before we move on to other categories, note a peculiar feature of the concept of coupling. As was noted earlier coupling occurs within categories, e.g., most people expect superordinate officeholders to be coupled to subordinate officeholders and planning to be related closely to budgeting. And, of course, elements from the two categories can be interrelated and their coupling can be described, e.g., the connection of position holders to planning. But wait, there is a third relationship between elements, i.e., a function, budgeting, may modify the relationship between offices or officeholders or, in turn, be modified in its relation to planning or staffing by them. Clearly this image of tight and loose coupling is going to unpack into more discrete relationships than we will be able to imagine, or use, at any point in time.

Procedural Elements

The activities that people pursue within organizations, even those designated as nomothetic, are captured incompletely by terms describing functions. For example, one of the most provocative of the depictions of loose coupling in organizations focuses solely on the linkage of intentions and actions (Salancik, Note 2). There are elements that fit such chains of expected linkage within organizations, e.g., intent-action, goal-program, problem-solution, in just the same way that linkages are expected among edificial and functional elements. The rationale for the anticipated linkage, and even the sequence of the linkage, is probably rooted in conventional problem solving models but it is exemplified in organizational studies by systems theory. We have less prior work on which to fall back in generating this cluster of elements, so the following list is obviously only illustrative:

- intent ⟶ action ⟶ consequential effect
- client needs ⟶ needs assessment ⟶ design of program interventions ⟶ service to clients
- problem ⟶ problem identification ⟶ generation of alternative solutions ⟶ assessment of solutions ⟶ solution
- decision situation ⟶ assessment of decision options ⟶ decision
- organizational resources ⟶ deployment of resources ⟶ product

Figure 1. Illustrative Sequential, Rational Processes in Organizations

The flow pictured in Figure 1 is, of course, not what we would propose for our taxonomy. Our interest is in the relationship between and among these elements which have ordinarily been described as being linked sequentially as they are pictured from left to right in the figure. Again, we hope that you will not become caught up in the primitivity of the illustrations but will modify them to suit your needs.

Now it is obvious that the notations which were inserted at the conclusion of the previous sub-sections could be repeated. There are three sets of variables or elements each of which can be coupled within its own category and across one or two additional categories. And, of course, an interaction has been added which would likely affect either or both the intra-category and inter-category couplings.

What an interesting way to study organizations coupling turns out to be!

Relationships or Interactions: The Textural Characteristics of Coupling

To this point, we have attempted to deal with a taxonomy of "things." We need now to return to the relationship that exists among or between the things that would justify such adverbial descriptions as loosely or tightly.

Our item pool of descriptions of coupling was built on five source documents (Weber, 1947; Glassman, 1973; Weick, 1976 and Note 1; Salancik, Note 2). We began by recording the words these observers used to depict the relationship among elements in organizations and to group them, where it seemed possible, into look-alike categories.

Without stretching your patience to the breaking point, the flavor of the descriptors used by these authors may help you to understand the decisions we made finally in classifying the textural characteristics. Weber was a rich source of ideas because of his overarching interest in the topic. Listen

to the tone of his words which we will group roughly: precisely, discretely, unambiguously, clearly; quickly, efficiently, rapidly; consistently, uninterruptedly; rationally, in a depersonalized way; obediently, harmoniously, conflict-free, shared from actor to actor; impactfully, significantly; and discreetly, i.e., out of the public view.

Glassman used terms that one might choose if the task were to find the opposite end of Weber's continuum: slowly, inconsistently, discontinuously, accidentally, unintentionally, incompletely, insufficiently, and not at all.

Weick turned to the task directly and proposed seven adverbs one could attach to the phrase, if A then B, if one were to describe loose coupling, i.e.: occasionally, eventually, negligibly, gradually, suddenly, ceremonially, and indirectly.

Salancik, concerned only with the relationship of intent and action, noted: ambiguously, unclearly, based on multiple stimuli, in a personalized way, disobediently, confusedly (without shared information), and problematically, in terms of consequences.

After so many trials and errors at grouping, re-grouping, adding to and deleting from these descriptors that we will not embarrass ourselves by detailing the process further we concluded the following:

(1) One dimension of coupling is captured by Weber's "uninterruptedly," Glassman's "not at all," and Weick's "occasionally." Coupling has a quantitative dimension, i.e., the simple frequency of an interaction, and that dimension is a part of the textural description of coupling within an organization.

(2) Beyond the quantitative depiction there is a quality of interaction which suggests to observers that they are seeing tight or loose coupling. At least for the sake of argument we are going to contend that this textural quality can be determined by:

(a) Reliability - the extent to which one element reacts in the same way to the stimulus of another element over repeated instances of reaction.

(b) Responsiveness - the extent to which one element adjusts quickly to altered conditions of another element.

(c) Dependence - the extent to which one element relies upon, needs the aid or support of, or supplements and complements another element.

(3) These qualities of coupling can be further disaggregated to reflect more precise qualities which may suggest ways of accumulating evidence about coupling:

(a) Reliability can be assessed by the extent to which there is a consistency of interaction between or among elements despite changes in the population of elements, e.g., the interaction between department chair and professor without regard to the particular department chair or professor; and the level of stability that the reaction displays over time, e.g., department chair $\longleftrightarrow$ professor at t_1 and t_2.[3]

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[3]Although the qualities can be disaggregated and defined, they are potentially interactive variables. Instability, for example, may be provoked by fluctuations over time in responsiveness or dependency. But each is worth individual consideration for a highly responsive interaction may be quite unreliable and a reliable response may, in turn, be slow, inharmonious, and one-sided.

(b) Responsiveness is reflected in the rapidity of the response; the harmony of the elements which are interacting in terms of their shared understanding and valuing of the stimulus; and the reciprocity of the elements in interaction.

(c) Dependency can be measured by the necessity or perceived necessity of the interaction to the organizational survival of either element; the support the interaction offers to the organizational efficacy of either element by supplementing or complementing the element's normal activities; and the synergism which is generated by the interaction in the organizational activities of either or both of the elements.

An outline of these proposed textural characteristics would include the following:

I. Quantitative Measure of Coupling

The frequency of the occurrence of interactions among elements in an organization, e.g., always, frequently, sometimes, seldom, never.

II. Qualitative Measures of Coupling

A. Reliability

1. Consistency
2. Stability

B. Responsiveness

1. Rapidity
2. Harmony
3. Reciprocity

C. Dependency

1. Necessity

2. Support

3. Synergism

Since these textural depictions seem vital to an understanding of coupling in organizations, and since they have received less attention in the traditional organizational literature than the elements themselves, we will try to clarify our understanding and yours with a few examples of how these characteristics might be used in describing organizational coupling.

Reliability: Consistency

Picture an interaction between two edificial elements in an organization. One can surely assess, not always with ease, whether or not interactions between the elements occur. Place these occurrences on a quantitative continuum which reflects whatever precision can be mustered, to wit:

never seldom sometimes frequently always

Now let us turn to the issue of consistency. This dimension can also be pictured on a continuum from higher to lower or more to less. Suppose the continua are intersected as follows:

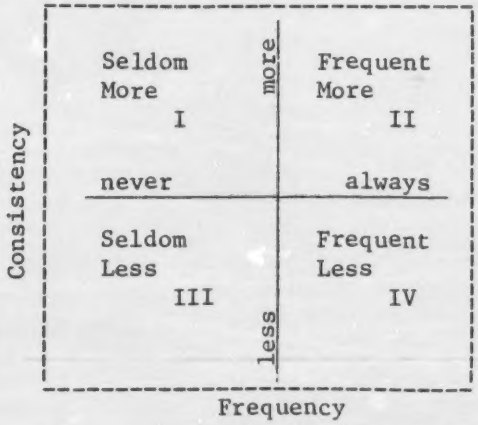

Figure 2. Representation of the Textural Characteristic of Consistency in Coupling Between or Among Elements in an Organization

Do each of the crude quadrants represent a textural description of coupling that is unique and important? We think so. Take the quantitative continuum and the department chair - professor interaction that was noted earlier. It is easy to imagine that, depending upon the IHE chosen for study, the number of interactions between department chairs and faculty might vary from frequent to seldom. It is equally easy to guess that within any given institution the frequency would vary from department to department. And that within a given department the frequency might vary by individual faculty. Are each of these notations a description of the texture of department chair ⟷ professor coupling across institutions, across departments within institutions, across professors within a department? Yes. variance by frequency is a necessary but not sufficient description of coupling between these two elements.

Suppose the characteristic of consistency is added. If one chose to observe the consistency of the interaction, s/he would judge the consistency to be higher if the response, regardless of frequency, were more nearly the same across institutions, departments, individuals. Can you imagine a substantive interaction which might have such consistency? How about a personnel recommendation not to grant tenure? AAUP guidelines are followed by many IHEs. Within most colleges and universities there are policies and reasonably detailed procedures to be followed in such instances. This would seem to be an example of an interaction which would seldom occur (most professors will never experience it) but which would be of relatively high consistency when it occurred. If we had to predict a priori, we would place this interaction in Quadrant I.

Switch to an example where a professor sends a copy of a conference paper or manuscript (this one, for example) to his/her chair. Such an

occurrence would surely score higher on the criterion of frequency. But what about the response? We would guess that the consistency would be low. For openers most department chairpersons would receive the stimulus ambiguously. Am I being asked for a critique? Is the professor soliciting reinforcement? Does s/he simply think I might be interested in the topic? This set of questions, however, exceeds the consideration (some, many, most) chairpersons might give to this stimulus. These chairs may well have a programmed response of inaction. The secretary files papers submitted for information unless there is a specific request for action. Our guess is that we are now dealing with a Quadrant IV case in most IHEs.

Hypothetically, Quadrants II and III are the categories in which one would find interactions most easily typified as tightly or loosely coupled. Do they exist? Yes, but again our guess is that they do not exist in the same number as those in I and IV. We would guess further that those in Quadrant II also deal with less consequential interactions, e.g., notification of a faculty meeting or sharing information transmitted from the dean's office through the department chair, or a request from the faculty member for travel funds. Quadrant III should have an interesting subset of interactions because it should include unique, even accidental, occasions for the interaction and conditions that neither actor has confronted often in the past.

Reliability

Figure 2 did not capture the condition of reliability because it covered only the characteristic of consistency: Figure 3 adds in the dimension of stability.

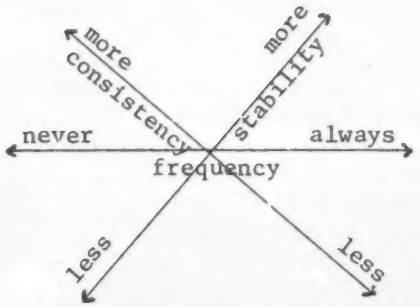

Figure 3. Representation of the Textural Characteristic of Reliability in Coupling Between or Among Elements in an Organization

Stability adds the test of time to the relationship. Whether examining the coupling on an inter-institutional, intra-institutional, or individual basis, will the interaction retain stability between t_1 and t_2? That surely would depend upon the interaction being examined, the time span between t_1 and t_2, and the history during the period even if the period is short. Since the Quadrant I example on tenure depended upon AAUP and/or institutional policies, a change in those policies might not affect frequency or even consistency at either t_1 or t_2 but would wreak havoc with stability. One would guess, however, that the broader the sanction, i.e., national vs. local, or the more the practice is embedded in socialization processes as well as policies or rules, the more likely that the interaction will exhibit stability.

Summary

You can now imagine the extension of these examples through the remaining areas of responsiveness and dependency. Our argument is that interactions need to be described in relation to the criteria of reliability, responsiveness, and dependency before the texture of coupledness in an IhE can be portrayed.

A Situation Still Under Review

Before turning to illustrative queries that researchers might use to examine coupling, let us review where we have been:

1. Coupling was defined as the relationship that exists between or among elements in an organizational system.

2. The "things" of coupling, i.e., variables or elements, in organizations were specified as:

   a. edificial elements

   b. functional elements

   c. procedural elements

3. To study coupling within organizations means to investigate the relationships between and among elements within these categories, and across the categories, and in multiple interaction within and among categories.

4. The qualities of these relationships have been specified as the textural characteristics of organizational coupling. The texture is determined by the reliability, the responsiveness, and the dependency of the relationship.

5. Complex organizations are coupled complexly. However, coupling with its sub-elements appears to be a variable powerful enough to unlock the mysteries of an organization to an observer.

6. Characterizing organizations as tightly or loosely coupled may have limited utility but even a cursory consideration of the relationship between organizational elements suggests that patterns of coupling probably exist across institutional types, within institutions by variable clusters, within and across clusters, and over time. Describing coupling richly and discovering coupling patterns is, we would guess, an exciting new frontier of organizational inquiry.

Illustrative Queries on Coupling

To provide a sample of ways in which researchers might go about examining coupling in an IHE, we chose the interaction between the: (1) edificial elements of position holder (professor) and office holder (department chairperson); (2) functional elements of planning and budgeting; and, (3) procedural elements of needs assessment and the design of program interventions. Using three techniques for acquiring data in organizations (document analysis, personal interviews or questionnaires, and observation) we will identify data elements or sources that might be sought out (e.g., personal recollection, institutional forms), and enumerate the type of organizational evidence that such data sources could yield. This evidence will, of course, be designed to produce a description of the quantitative and qualitative dimensions of the interaction between the organizational elements.

For the professor ⟷ department chair interaction we will build the table step-by-step. Table 1a lists several data elements or sources that might be useful in gathering data about the interaction:

Table 1a

Data Sources and Elements Relevant to Interactions Between Professors and Department Chairpersons

TACTICS	DATA SOURCES AND ELEMENTS
Document Analysis	• exchange of formal memoranda • professorial/chairperson calendars • exchange of required institutional forms • attendance rosters of departmental meetings • exchange of fugitive material
Interview	• personal recollections of frequency of contact for some time period • diary of contacts for specific time periods • perception of number of items or actions that require validation, approval, or information exchange • perception of frequency of contacts between other faculty and chairperson
Questionnaire	
Observation	• traffic between chair and faculty offices • phone calls between chair and faculty offices • department meetings • unscheduled meetings outside office space

Quantitative evidence can be gleaned from the data sources by taking frequency counts or otherwise estimating the frequency of the professor ⟷ department chairperson interactions. This will allow placement of the interactions on the quantitative continuum, i.e., never - seldom - sometimes - frequent - always.

The illustrative queries about this interaction are completed by adding organizational evidence about the textural characteristics of reliability, responsiveness, and dependency. This addition is illustrated in Table 1b.

Table 1b

Illustrative Areas of Organizational Evidence About the Textural Characteristics of Interactions Between Professors and Department Chairpersons

Sample Areas of Organizational Evidence		
Reliability	Responsiveness	Dependency
1. The extent to which required forms are submitted at t_1 and t_n and the extent to which that varies by faculty members within a department or by faculty members across departments.	1. The systematic variance, if any, in the length of the response period to formal memoranda on the same topic by professors and chairs, within and across departments.	1. The extent to which the action(s) of the chair actually controls the tenure or retention of the faculty member; or, the action of one or more faculty members may terminate the tenure of the chair.
2. The extent to which chair ⟷ professor contacts vary systematically or randomly (a) within a department, (b) across departments, (c) either (a) or (b) across time.	2. The congruence on the general categories and specific items that need either validation or approval between professors and chairs, among professors, among chairs.	2. The extent to which the chair provides graduate assistants or clerical assistance or seed grants for research for faculty; or, the extent to which the acquisition of R & D funds by a faculty member enhances the reputation of the chair as an effective administrator.
3. The extent to which chair ⟷ professor contact varies among faculty, especially whether the perception reflects a systematic bias about others' interactions.	3. The extent to which individual and/or group responses to the proposal for action of a chair at a departmental meeting affects not only the disposition of the item in question but the form or substance of a proposal from the chair at a subsequent meeting.	3. The extent to which joint efforts by faculty and chair to revise the program, or recruit students, or obtain R & D funds, or service clients modifies the internal power and image of the department, departmental services available to faculty and chair, the national image of the department, the ability to obtain subsequent grants, contracts or resources.
4. The extent to which formal departmental meetings vary in frequency and exhibit systematic variances in attendance by professors and chairs.	4. An inventory of the number of individual and/or group items for action that are "on the chair's desk" or awaiting faculty input or decision before resolution.	4. The perception of the faculty member that the chair controls institutional rewards for faculty; or, the perception of the chair that his/her effectiveness depends upon the individual or collective support of the faculty.
5. The involvement of professors and chairs in informal contact (unscheduled, outside office space) by chair, professor, intra- and extra-department.	5. The level of congruence of faculty perceptions about the action items on the chairperson's formal and informal agendas for the current academic year.	5. The extent to which the chair reduces the isolation experienced by many faculty members by recognizing achievements in teaching or research or service.
	6. The extent to which a chair's efforts to stimulate or redirect a faculty member's efforts results in some redirection of the faculty member or chair or both.	6. The efforts of individual faculty members and the chair to support, reinforce, even shepherd, the initial efforts at R & D and scholarly productivity of newly appointed faculty.

The sample areas of evidence in Table 1b are designed to reflect the sub-indicators of reliability, responsiveness, and dependency noted in the preceding section of the paper. For example, #1 and #2 under reliability probe both

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consistency and stability; #3, #4 and #5 deal only with consistency. Under the responsiveness column, #1 and #4 deal with rapidity, #2 and #5 with harmony, and #4 and #6 with reciprocity. This effort to cover all the sub-indicators of a quality will be followed in each of the three master tables.

The six columns just described are put together in Table 1. Cumulatively, we would argue that even those fragmented pieces of data would provide the observer with a sense of the coupling between these functionaries in an IHE. Surely institutions will differ in these couplings and it is likely that such differences will be systematic according to institutional type or location, or size, or substantive area of the department. One can imagine institutions in which the frequency of contact is low, but when there is contact the reliability of the interaction is high. This might be true of situations in which there is a high degree of collegiality, or value consensus, or in which explicitly stated rules and regulations govern the approval or validation of activities. The ability to describe the strength of professor ⟷ department chairperson coupling provides a focus on the relationships between and among individuals in the organization. Such a focus, it would seem, could lead to observations about patterns of coupling which may influence, for example, climate, or morale, or effective management practices.

Table 2 illustrates evidence pertinent to interactions between planning and budgeting. As was the case in Table 1, an effort has been made to represent the sub-indicators of each textural quality. In column 1, for example, consistency would be high if a modified planning priority affected budgetary allocations similarly across units (#2). Stability would be indicated by an interaction which was sustained across a change in departmental leadership (#4). Many observers of IHEs, most with precious little evidence, comment on

Table 1

Illustrative Organizational Evidence About the Interactions Between Professors and Department Chairpersons in an Institution of Higher Education

Tactics	Data Sources	Quantitative	Sample Areas of Organizational Evidence: Reliability	Responsiveness	Dependency
Document Analysis	• exchange of formal memoranda • professorial/chairperson calendars • exchange of required institutional forms • attendance rosters of departmental meetings • exchange of fugitive material	Frequency counts of interactions between faculty and chairperson	1. The extent to which required forms are submitted at t_1 and t_n and the extent to which that varies by faculty members within a department or by faculty members across departments 2. The extent to which chair ⟷ professor contacts vary systematically or randomly (a) within a department, (b) across departments, (c) either (a) or (b) across time. 3. The extent to which chair ⟷ professor contact varies among faculty, especially whether the perception reflects a systematic bias about others' interactions. 4. The extent to which formal departmental meetings vary in frequency and exhibit systematic variances in attendance by professors, chairs. 5. The involvement of professors, chairs in informal contact (unscheduled, outside office space) by chair, professor, intra- and extra-department.	1. The systematic variance, if any, in the length of the response period to formal memoranda on the same topic by professors & chairs, within and across departments. 2. The congruence on the general categories and specific items that need either validation or approval between professors and chairs, among professors, among chairs. 3. The extent to which individual and/or group responses to the proposal for action of a chair at a departmental meeting affects not only the disposition of the item in question but the form or substance of a proposal from the chair at a subsequent meeting. 4. An inventory of the number of individual and/or group items for action that are "on the chair's desk" or awaiting faculty input or decision before resolution. 5. The level of congruence of faculty perceptions about the action items on the chairperson's formal and informal agendas for the current academic year. 6. The extent to which a chair's efforts to stimulate or redirect a faculty member's efforts results in some redirection of the faculty or chair or both.	1. The extent to which the action(s) of the chair actually controls the tenure or retention of the faculty member; or, the action of one or more faculty members may terminate the tenure of the chair. 2. The extent to which the chair provides graduate assistants or clerical assistance or seed grants for research for faculty; or, the extent to which the acquisition of R & D funds by a faculty member enhances the reputation of the chair as an effective administrator. 3. The extent to which joint efforts by faculty and chair to revise the program, or recruit students or obtain R & D funds, or service clients modifies the internal power and image of the department, departmental services available to faculty and chair, the national image of the department, the ability to obtain subsequent grants, contracts, or resources. 4. The perception of the faculty member that the chair controls institutional rewards for faculty; or, the perception of the chair that his/her effectiveness depends upon the individual or collective support of the faculty. 5. The extent to which the chair reduces the isolation experienced by many faculty members by recognizing achievements in teaching or research or service. 6. The efforts of individual faculty members and the chair to support, reinforce, even shepherd the initial efforts at R & D and scholarly productivity of newly appointed faculty.
Interviews	• personal recollections of frequency of contacts for some time period • diary of contacts for specific time periods • perception or actions that require validation, approval, information exchange • perception of frequency of contacts between other faculty and chairperson				
Questionnaires					
Observations	• traffic between chair/faculty offices • phone calls between chair/faculty offices • department meetings • unscheduled meetings outside office space				

Table 2

Illustrative Organizational Evidence About the Interactions Between the Management Functions of Planning and Budgeting in an Institution of Higher Education

Tactics	Sample Areas of Organizational Evidence				
	Data Sources	Quantitative	Reliability	Responsiveness	Dependency
Document Analysis	• The budget itself-university, school, and departmental • Budget proposals at various stages of development • University planning papers • Formal planning documents at university, school, department levels • Plans included in external reports, e.g., accreditation documents • Recommendations from faculty councils	Frequency counts of interactions between planning and budgeting	1. The extent to which an asserted change in institutional priorities is employed in future budget allocations or the extent to which a change in budgetary allocations is used to revise existing planning documents 2. The extent to which a planning priority effects budgetary allocations similarly across departmental units 3. The extent to which a budgetary reallocation which occurred at t_1 is sustained or reinforced at t_n if the planning priority remains the same 4. The extent to which the budgetary ⟷ planning interaction occurs in Department A at t_1 and t_n after a change in departmental leadership	1. The short-term within-cycle responsiveness of planning ⟷ budgeting, e.g., rescissions, freezes, supplementary appropriations 2. The use of new planning priorities in the next round of budgetary negotiations 3. The mutuality of view of faculty and administration about: (a) priorities reflected in the two processes; (b) implications of the priorities for action 4. The overlapping memberships or directorates in the two processes 5. The extent to which budgetary reallocations trigger the planning process; or the reverse	1. The extent to which the processes are linked by technological devices, e.g., MBO, PPBS, ZBB 2. The perception that dissonance between the functions will result in loss of extra-unit support or resources, or the requirements of an outside agent or agency that the processes be kept in synchronization 3. The extent to which either process is viewed as rationalizing the other, e.g., budgetary allocations are considered equitable because they follow planning priorities 4. The extent to which the congruence of planning and budgeting processes serves as the basis for a political coalition in support of institutional priorities 5. Instances in which the linking of planning convinces external constituencies of the rationality of the organization or creates or reinforces a hallmark of institutional excellence
Interviews Questionnaires	• Reports of individual plans and planning by faculty and administration • Stated priorities of planning goals of faculty and administration • Perceptions of the match between budgeting and planning priorities • Perceptions of involvement of faculty and administrators at various steps in planning and budgeting.				
Observations	• Coordinated efforts at planning and budgeting, e.g., use of technological systems to link planning and budgeting (PPBS) • Priority setting in faculty or administrative council meetings • Physical evidence of match between planning goals and fund allocations, e.g., new field service center or heavier teaching loads • Evidence of changes in resource allocation based on planning proposals, e.g., RIFs in low enrollment units				

the loose coupling between these management functions. Are they more closely linked during periods of scarcity or client dissatisfaction? Are they more closely coupled in IHE administration and more loosely linked closer to the technical core activities of teaching, research, and service? Does the strength of coupledness vary by textural characteristic, i.e., is the relationship more reliable than responsive? Is the characteristic of dependency higher on synergism for political and symbolic purposes than on necessity for survival? Is necessity defined primarily by actions or perceptions?

Colleges and universities are not usually viewed as organizations that are attentive to client needs. But some units, e.g., continuing education, external degree programs, even a few professional schools, use needs assessments frequently and argue that their programs reflect the data gathered through such assessments. Table 3 examines a number of interesting questions which arise around the relationship between needs assessment and program innovation or redesign in IHEs. Does the use of formal or informal needs assessment techniques vary by school and department as a tool for program design? Are needs assessments used differently across units, i.e., symbolically instrumentally, not at all? Do assessors and designers share the same interest in tapping into client needs?

Tables 1-3 are offered for two reasons: first, to demonstrate that quantitative and qualitative data about coupling between and among organizational elements is readily available in IHEs, and second, to illustrate the interesting questions that arise when one begins to probe the phenomenon of coupling. We chose relatively simple interactions for illustrative purposes. A fuller description of organizational coupling would require very intensive studies of a department, several departments, a school or an entire university. We

Table 3

Illustrative Organizational Evidence About the Interactions Between the Processes of Needs Assessment and Program Intervention or Innovation in an Institution of Higher Education

Tactics	Data Sources	Sample Areas of Organizational Evidence: Quantitative	Reliability	Responsiveness	Dependency
Document Analysis	• Formal needs assessment report • Memoranda transmitting copies of report to faculty • Agendas and minutes of meetings in which needs assessment and follow-up activities were discussed • Memoranda relative to follow-up activities • Descriptions of program intervention designs	Frequency counts of interactions between needs assessment and the design of program interventions	1. The extent to which the findings and recommendations of a needs assessment report can be matched with program intervention designs or elements of altered programs 2. The extent to which a university needs assessment results in the design of program interventions within and across university, school, and department levels 3. The extent to which various units in the IHE conduct some form of client needs assessment as a basis for program design 4. The extent to which a program intervention in response to a needs assessment continues over time, i.e., the institutionalization of an innovation based on a needs assessment 5. The extent to which a needs assessment conducted by a department is used as a program guide after a change in departmental leadership	1. The extent to which short term efforts are made to design program interventions in response to a needs assessment 2. The degree of urgency expressed by faculty toward unmet needs identified in a needs assessment report 3. The extent to which clients agree that (a) the needs assessment reflects their needs and (b) the program interventions meet their needs 4. The extent to which there is concurrence between those responsible for the needs assessment and those responsible for the design of program interventions 5. The extent to which a program intervention that fails stimulates the initiation of a new round of needs assessment on which a modified program intervention may be based	1. The extent to which a needs assessment and the design of program interventions are linked by, e.g., an institutional planning process, administrative directive, demands of an outside agent or agency 2. The extent to which approval or adoption of program intervention designs is based on findings and/or recommendations of a needs assessment 3. The extent to which findings or recommendations of a needs assessment provide a rationale for the design of program interventions 4. The perception that a needs assessment will facilitate or provide impetus for the design of program interventions; or program intervention designs would be more broadly accepted if they resulted from a needs assessment 5. The perception that a close link between needs assessment and program intervention designs would cause the university or school or department to be seen as responsive to client needs or interested in providing a high quality of client services 6. The perception that a link between needs assessment and the design of program interventions will allow the university or school or department to engage in self-renewal or solve problems or maintain a positive reputation
Interviews	• Perceptions of faculty members and administrators that the needs assessment will or will not result in the design of program interventions • Knowledge of faculty members of needs assessment results and planned follow-up activities • Knowledge by faculty members of program changes based on the needs assessment • Involvement of faculty members in design of program interventions • Perceptions of IHE clients that the programs of the university are better attuned to their needs				
Questionnaires					
Observation	• Meetings to address needs assessment findings and recommendations and/or to design program interventions • Formation of committees to design program interventions • Formation of informal faculty groups in favor of or opposed to the design of program interventions • New programs in operation which are based allegedly on the needs assessment				

wish that all organizational research were tidy and precise. But what makes the study of organizations interesting is the fact that they are complex. Our ways of viewing them will have to match or approach that level of complexity.

Discussion and Implications

> "In retrospect, we can put it more bluntly, the concept of loose coupling must not be used normatively" (Lutz, 1982, p. 656).
>
> "But what seems to be implied is that, although an insufficient condition, unpredictability is still a necessary condition of a loosely coupled organization. If so, the loose-coupling . . . is not a useful research model. Predictability is a goal of, if not an essential function of, research" (Lutz, p. 657).

These recent observations about coupling serve as an able foil to some implications we would draw from our effort to unpack the variable "coupling," i.e.:

- To debate the efficacy of tight or loose coupling in complex organizations on an organization - wide basis is a will-o'-the-wisp. The debate continues only because it can never be joined. It needs to be dismissed with Berelson's, "It's more complicated than that."
- Surely normative attributions to tight or loose coupling in organizations are possible if one specifies the elements involved, the texture of the interaction, and the associated organizational conditions surrounding the interaction. We do not as yet know enough to assert such attributions except on an intuitive basis; but we could!
- Loose coupling is inappropriately considered as a "research model" but coupling is most appropriately considered as a logical structure for organizational research. Our contention is that coupling is a perspective

of potentially major heuristic value in studying organizations. The contribution of those who have suggested to us over the last decade that our organizations are more loosely coupled than we had imagined has been to mitigate our model bias so that coupling can become a tool for organizational analysis.

- The next steps that need to be taken are not difficult to project. We need (1) technical-methodological inquiry that will improve our definitional, classificatory, and instrument development capacities; and (2) empirical inquiry using both quantitative and qualitative techniques to build our knowledge bank.

Technical-methodological inquiry

To note that the authors were surprised to discover the paucity of instrumentation to study organizational coupling is an understatement. The most recent empirical study we found (Firestone & Herriott, 1982) used a locally developed instrument that assessed teacher perceptions of goal consensus and centralization of influence as the measure of loose coupling. (Firestone & Herriott, 1980, Appendix B) But even this crude instrumentation distinguished clearly among schools on a grade level basis. If you intend to strike out in this territory, you will currently "go-it-alone" from a technical point of view.

And that is not good enough. We recognize the incipient level of the definitional work that has been presented in this paper. Some of the taxonomic advances needed will have to await, or rather will grow from, naturalistic observations of organizational coupling. Substantial advances are still possible within the current knowledge base. Initial instrumentation needs to

provide wide latitude to the observer. We must not attempt to invent a second OCDQ substituting coupling for climate. However, substantively disposed inquirers should not be expected to generate the necessary and sufficient technical work required to advance this field.

Empirical inquiry

Most of all we need field researchers actively tracking and recording coupling in organizations - from our myopic viewpoint especially in colleges and universities. We have no strong preferences for strategies or techniques of inquiry. Intensive descriptive reports on organizational coupling are needed. Researchers predisposed to naturalistic inquiry should have a field day. We think enough is known to support interesting a priori hypotheses which would attract individuals who prefer more conventional research methods. If technical-methodological thrusts can be encouraged, the empirical studies can usefully test categories and instrumentation as well as create new categories and instruments of their own.

Despite the fact that we failed to complete the study we set out to conduct, our impression is that we know more about organizations and organizing than when we began. Coupling is a volatile, metacentric variable that can be used to open up organizational inquiry.

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